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INTERNATIONAL SYMPOSIUM AND SUMMER SCHOOL ON BIOANALYSIS

- ABSTRACT BOOK -

ORAL

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OC-02

VALIDATION OF A LIQUID-LIQUID EXTRACTION METHOD FOR ANALYSIS OF WINE AROMA COMPOUNDS WITH GC-MS

Violeta Ivanova[1]*, Marina Stefova[2], Trajče Stafilov[2], Borimir Vojnoski[3], Ildiko Bíró[4], Anita Bufa[4], Ferenc Kilár[4,5]

[1]"Goce Delčev" University - Štip, Faculty of Agriculture, Krste Misirkov bb, 2000 Štip, Republic of Macedonia, E-mail: violeta.ivanova@ugd.edu.mk
[2]Institute of Chemistry, Faculty of Natural Sciences and Mathematics, Ss Cyril and Methodius University, 1000 Skopje, Arhimedova 5, Republic of Macedonia
[3]Institute of Agriculture, Ss Cyril and Methodius University, Department for Enology, Aleksandar Makedonski bb, 1000 Skopje, Republic of Macedonia
[4]University of Pécs, Faculty of Medicine, Institute of Bioanalysis, Szigeti útja 12, H-7624 Pécs, Hungary
[5]University of Pécs, Faculty of Sciences, Department of Analytical and Environmental Chemistry, Ifjúság útja, H-7624, Pécs, Hungary

A validated method for identification and quantification of volatile compounds in wine was developed using liquid-liquid extraction followed by gas chromatography coupled to mass spectrometry (Ivanova et al., 2012a, 2012b). Dichloromethane was used as an extraction solvent, with good repeatability and reproducibility (RSD < 10%). The correlation coefficients (R2) ranged from 0.9951 to 0.9992, showing linear calibration curves of the used reference compounds (2-phenyl ethanol, ethyl nonanoate, butyrolactone and tyrosol). The developed method was applied for characterization of the volatile components making the aroma profile of the Kékfrankos red wines produced from the grape variety grown in the Villány wine region in Hungary. Compounds determined in the wines belonged to the group of alcohols, esters, lactones, fatty acids, furans and nitrogen compounds, the first two groups being the dominant ones influencing the main aroma of the wine. Overall, Kékfrankos wines presented higher content of alcohols compared to other wines, such as Cabernet Sauvignon wines from Changli County (China) and Tempranillo wines, but lower amount compared to Albarello and Brancellao wines as well as, from the varieties Ribolla Gialla and Malvasia Istriana. In addition, Kékfrankos wines possessed similar amount of total esters in comparison to other red wines.

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References

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